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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/809,355

03/26/2004

Satoshi Ichimura

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MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.

1800 DIAGONAL ROAD

SUITE 370

ALEXANDRIA, VA 22314

EXAMINER

SIEFKE, SAMUEL P

ART UNIT

PAPER NUMBER

1743

MAIL DATE

DELIVERY MODE

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/809,355

Applicant(s)

ICHIMURA ET AL.

Examiner

Samuel P. Siefke

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7,15-17,19-22,26 and 34 is/are rejected.
- 7) ☒ Claim(s) 3,8-14,18,23-25,27-33 and 35-37 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 2/11/05, 10/25/04, 6/28/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date, \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4, 5, 6, 16, 17, 19 and 20 rejected under 35 U.S.C. 102(b) as being anticipated by EP 831319 (herein after Ep 319).

Ep 319 discloses a method for analyzing a solid specimen that comprises transferring a substrate (fig. 1 ref. 20, fig. 18, ref. 601) with a substance thereon into a vaporizing section (fig. 1, ref. 8, fig. 18, ref. 607). As seen in figure 18, the cut sample 601 is transferred to the laser irradiation position along rails 617 by a transfer means 616. The substance on the substrate is then vaporized (heated) by laser irradiation by laser 1 which produces fine particles are then transferred to an analyzer 12 while being carried in gaseous argon. The vaporized fine particles are then measured in analyzer 12 which is an inductive coupled plasma emission spectroscopy apparatus where the fine particles are detected (entire page 7, fig. 1). Regarding claim 2, argon is the feed gas which carries the fine particles to the analyzer 12. Regarding claim 4, since the argon 10 is supplied to flow past the upper surface of the substrate and carry the particles away from the substrate, the Examiner submits that the argon does not pass through the substrate in a stacking direction in which the substance and the substrate

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are stacked. One can further deduce this by looking at the flow arrangement in figure 1. Regarding claim 5, since the argon 10 is supplied to flow past the upper surface of the substrate and the substrate is sealed on the laser irradiation unit by o-ring the argon in no way can flow past the reverse surface of the substrate. Regarding claim 6, since the laser heats the top of the surface the heat is radiated to an upper surface. Regarding claim 16, Ep 319 disclose an apparatus that comprises a vaporizing section (fig. 1, ref. 8, fig. 18, ref. 607), including a substrate holder (fig. 18, ref. 616 transfer means which holds the substrate), a heater (laser) for generating a heat energy to heat the substance (601) on the substrate holder so that a component is vaporized from the substance held on the substrate holder 616, a detector 606 which receives the vaporized substance and analyzes the substance therein (page 15, fig. 18). Regarding claim 17, the vaporizing section includes an inlet port (613) opening to supply gaseous argon and the vaporized sample to a detector 606 via pipe 615. Regarding claim 19, since the argon (614) is supplied to flow past the upper surface of the substrate and carry the particles away from the substrate, the Examiner submits that the argon does not pass through the substrate in a stacking direction in which the substance and the substrate are stacked. One can further deduce this by looking at the flow arrangement in figure 1 and 18 (page 7 and 15). Regarding claim 20, since the argon 10 is supplied to flow past the upper surface of the substrate and the substrate is sealed on the laser irradiation unit by o-ring the argon in no way can flow past the reverse surface of the substrate.

Claims 1, 2, 7, 15, 16, 17, 21, 22, 26 and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Davies et al. (USPN 5,425,263).

Davies discloses a method for inspecting an article for concealed substances. The method comprises transferring a substrate (fig. 1 ref. 15, fig. 7, ref. 116) with substance (impacted particles from flow B, col. 4, line 58-col. 5, line 1) into a vaporizing section created by heater anvil 118 that is moved to accommodate substrate 116 to testing position against analyzer inlet 122 which seals the substrate in an enclosed state for testing. Then the heater 124 vaporizes the substance on the substrate 116 and sample gas flow, such as clean air or an inert gas, is introduced by an air flow channel 128 through the heater anvil 118 to direct the desorbed vapors into the analyzer inlet 122 and onto analyzer 110. Regarding claim 2, an inert gas is used to pass the desorbed vapors to the analyzer. Regarding claim 7, the heat source is located under the substrate and heated upward through the substrate toward the analyzer. Regarding claim 15, substrate 15 contains a plurality of test samples to be analyzed. After a sample is vaporized and the sample is analyzed the substrate 15 slides into vaporizer section (col. 7, line 60-col. 8, line 8). Further Davies discloses take up motor 112 that advances a reel 114 container the collection medium in the form of a tape 116 as seen in figure 7. Regarding claim 16, Davies discloses an apparatus for detecting a component of a substance on a front surface of a substrate (116) that comprises a vaporizing section (124,118,122) includes substrate holder 114. The heater anvil 118 can also be interpreted as the substrate holder since it is in contact with the substrate when testing is performed. A heater 124 generates heat to vaporize a substance on the

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substrate, and a detector 110 for detecting the vaporized particles (fig. 7). Regarding claim 17, the vaporizing section includes an inlet port opening (heater anvil 118 supplied by pipe 128) for supplying an inert gas toward the detector 110. Regarding claim 21, the Examiner is interpreting heater anvil 118 as the inlet opening which is large enough for introducing the substrate from an outside of the apparatus on the substrate holder through the open area (fig. 7). Regarding claim 22, the heater anvil (inlet port) surrounds the substrate and sample substance area when the sample is presented for vaporizing and analysis as seen in figure 7. Regarding claim 26, the heater anvil 118 is in direct contact with collection medium 116 and collection medium is heated from the bottom side (reverse of the upper surface) (col. 7, lines 5-24). Regarding claim 34, an outlet port 122 (inlet port to analyzer 110) allows the vaporized substance to pass to an analyzer 110 for detection. The port 122 and heater anvil 118 create the vaporizing section when a collection medium 116 is placed there between and the heater anvil is moved into direct contact with the collection medium.

***Allowable Subject Matter***

Claims 3, 8-14, 18, 23-25, 27-33, 35-37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not teach or fairly suggest supplying the gaseous material from a radially outer side with respect to the substrate toward the substance in a radially inward direction. The prior art does not teach or fairly suggest irradiating the substance by radiant heat from an

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upper surface and a lower surface at the same time. The prior art does not teach or fairly suggest changing the distance between the substrate and a heat source so an amount of the radiant heat energy per unit time period for heating the substance is changed. The prior art does not teach or fairly suggest the gaseous pressure in the detecting section or the vaporizing section being less than the atmospheric pressure. The prior art does not teach or fairly suggest the gaseous pressure in the detecting section being less than the gaseous pressure in the vaporizing section. The prior art does not teach an inlet port that includes at least three sub-inlet ports arranged to surround the front surface of the substrate. The prior art does not teach or fairly suggest a detector including an exhausting device for keeping the pressuring inside the vaporizing section lower than the atmospheric pressure. The prior art does not teach or fairly suggest a transfer member contactable with the substrate and movable with respect to the substrate holder.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel P. Siefke whose telephone number is 571-272-1262. The examiner can normally be reached on M-F 7:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on 571-272-1700. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sam P. Siefke

A handwritten signature in black ink, consisting of a series of loops and curves, positioned below the printed name.

July 18, 2007